

## CHAPTER 6

# Alternatives

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Section 10 of the Federal Endangered Species Act of 1973 (FESA) requires an applicant for an incidental take permit (ITP) to consider and describe “alternative actions to such takings” within the habitat conservation plan (HCP). Imperial Irrigation District (IID) considered several alternatives in the process of developing the HCP that were determined to be inconsistent with its objectives and/or less likely to be successfully implemented. The alternatives to the HCP that were considered are listed below.

1. No Action Alternative
2. Conservation and Transfer of 130 thousand acre-feet (KAF)
3. Conservation and Transfer of 230 KAF

## 6.1 No Action Alternative

Under the No Action Alternative, IID would continue to meet the demands of farmers and other water users within its service area in the Imperial Valley using Colorado River water diverted in accordance with IID’s existing water rights. IID would not engage in a program to conserve water for the purpose of transferring it outside the service area other than continued implementation of the 1988 IID/Metropolitan Water District of Southern California (MWD) Water Conservation and Transfer Agreement. System improvements and modernization programs would continue as needed, with listed species consultations (when necessary) conducted on an individual, project-specific basis. IID’s ongoing operation and maintenance (O&M) activities along the All American Canal (AAC) and in the Imperial Valley would continue.

Under this alternative, diversion of water through the AAC would remain consistent with the range of flows currently diverted at Imperial Dam. In the Imperial Valley, the canal system would be operated and maintained in a manner consistent with current O&M activities, and the habitat values supported by the canal system would remain similar to the levels currently supported. Water quantity and quality in the drainage system also would be expected to be similar to existing conditions and trends.

Under the No Action, the salinity of the Salton Sea would continue to increase and the water surface elevation would decrease. The rate and magnitude of salinity and water surface elevation changes and the effects of these changes on covered species is described in Chapter 3, Section 3.3.2. In addition, the environmental impact report and environmental impact statement (EIR/EIS) provides an evaluation of the trends in biological resources of the HCP area under the No Action.

The No Action Alternative is inconsistent with IID’s primary goals and objectives. IID’s primary objective is to continue to reliably deliver water and provide drainage to its agricultural and other water customers in the Imperial Valley. The Proposed Project and Quantification Settlement Agreement (QSA) provide IID with a means for protecting its water right and gaining additional future certainty in meeting the water demands of its customers. The No Action Alternative is also inconsistent with the objective of

implementing the QSA which provides for a 75-year reallocation of Colorado River water among IID, MWD, and Coachella Valley Water District (CVWD) to address state and national issues concerning the Lower Colorado River (LCR). This provides considerable benefit to the agricultural community and economy in the Imperial Valley and also benefits the covered species by assisting in assuring the continued viability of agriculture in the Imperial Valley. The agricultural activities supported by water delivered by IID provide habitat that has attracted many species to the area. Species using habitats associated with agricultural production in the Imperial Valley also are dependent upon continued delivery of water to maintain existing levels of use. Future impairment of IID's ability to fully deliver water to its customers could also result in negative effects on the fish and wildlife resources that are dependent upon the habitats supported by agricultural irrigation water.

In consideration of these factors, IID determined that taking no action could lead to the impairment of its ability to deliver water in the future and result in negative impacts to its customers, the biological resources, and the agricultural economy that depends on water delivery. Therefore, the No Action Alternative is not considered to be a practicable or feasible alternative.

## **6.2 Modification of Water Conservation and Transfer Amounts**

Two different levels of water conservation were examined as alternative actions to the level of take anticipated under the proposed water conservation programs and the HCP. The underlying premise for considering these alternatives was that the potential for impact and the level of take are related to the amount of water conserved and transferred out of the system. Each of these alternatives was anticipated to have incrementally less impact relative to the Proposed Project.

As described in Section 6.1, No Action Alternative, it is important for IID to meet the terms of the IID/San Diego County Water Authority (SDCWA) Water Conservation and Transfer Agreement and the QSA to protect its water right and its ability to fully serve its customers in the future. Modification of the water conservation and transfer amounts is inconsistent with meeting that objective. In addition, as described below, reduced conservation and transfer amounts would not substantially reduce the level of take or mitigation requirements. For these reasons, none of these alternatives were adopted.

### **6.2.1 Conservation and Transfer of 130 Thousand Acre-Feet Out of the Basin**

Under this level of water conservation, IID would restrict the amount of water conserved and transferred out of the basin (i.e., to SDCWA) to 130 KAFY. Water would be conserved through a variety of on-farm methods. As with the proposed HCP, potential impacts along and within IID's canal and drainage system, and in and around the Salton Sea could occur. Habitat conditions along the AAC would remain relatively unchanged. IID's ongoing O&M activities would be the same as those outlined in the proposed HCP. The primary difference between this alternative and the proposed HCP relate to the amount and quality of water in the drains and entering the Salton Sea.

Results of the analysis conducted for the proposed HCP indicate that conservation of 130 KAFY annually using on-farm methods would result in a maximum of 23 acres of additional drain vegetation being needed to compensate for increased selenium toxicity as indicated by predicted hatchability effects (see Chapter 3, Section 3.5). Using a mitigation

ratio of 1:1 for take associated with selenium toxicity, a maximum of 23 acres of managed marsh habitat would be created to mitigate selenium toxicity impacts to covered species under this alternative. Under the proposed HCP, 23 to 42 acres of habitat would be needed to offset selenium toxicity. While the level of mitigation required specifically for selenium effects would be lower under this alternative, creation of managed marsh to address impacts of other covered activities would result in the overall amount of mitigation being similar to the Proposed HCP.

The rate of salinization of the Salton Sea and the expected effects on covered species using the Salton Sea would also not differ substantially from the proposed HCP. Conservation of 300 KAF through on-farm and system-based measures under the HCP would reduce inflow to the sea by about 300 KAF. At this level of reduced inflow, the modeling shows the salinity of Salton Sea exceeding 60 parts per thousand (ppt)<sup>1</sup> in 2012 (Table 3.3-2, Figure 3.3-1). Conservation and transfer of 130 KAF of water using on-farm measures would reduce inflow to the Salton Sea by 130 KAF. At this level of inflow reduction, the modeling shows that 60 ppt would be exceeded in 2013, one year later than under the Proposed HCP. Because the reduced level of conservation under this alternative would not significantly reduce the level of impact relative to the activities covered by the permit, it was not carried forward.

## 6.2.2 Conservation and Transfer of 230 Thousand Acre-Feet

This level of water conservation anticipates the conservation of a total of 230 KAFY and transfer of 130 KAFY to SDCWA and 100 KAFY to CVWD. Under this scenario, it is assumed that the impacts to the Imperial Valley (e.g., reduction of habitat quality in the drains) would be intermediate to the Proposed Project and the 130 KAF level of conservation. IID's ongoing O&M activities would be the same as those outlined in the proposed HCP.

Conservation of 230 KAF annually using a combination of on-farm methods (130 KAFY) and system improvements (100 KAFY) would result in a maximum of 37 acres of drain vegetation needed to offset selenium toxicity as indicated by predicted hatchability effects. If the total of 230 KAFY were conserved using only on-farm methods, a maximum of 24 acres would be needed. Using a mitigation ratio of 1:1 for take associated with selenium toxicity, from 24 to 37 acres of managed marsh habitat would be created to mitigate selenium toxicity impacts to covered species under this alternative. This range of impacts is nearly identical to that predicted under the proposed HCP (23 to 42 acres). Thus, this alternative would not substantially change the level of take of covered species or mitigation requirements.

The rate of salinization of the Salton Sea and the expected effects on covered species using the Salton Sea would also not differ substantially from the proposed HCP. Conservation and transfer of 230 KAF would be achieved through conservation of 130 KAF through on-farm conservation measures and 100 KAF conserved through system-based measures, following or additional on-farm measures. Inflow to the sea would be reduced by up to 230 KAF. At this level of inflow reduction, the salinity of the Salton Sea is projected to surpass 60 ppt in 2012, the same year as under the Proposed HCP. Thus, this lower level of conservation would not reduce the level of impact relative to the activities covered by the permit.

<sup>1</sup> Many of the studies regarding salinity tolerance of various species report the results in parts-per-thousand (ppt). Modeling conducted for this HCP utilized concentrations in mg/L (converted to g/L) which differs slightly from ppt as salinity increases due to the difference in the specific gravity of saltwater versus freshwater. Model results are reported in ppt for simplicity and to allow direct comparison with reported tolerances.